

Inventors: de Rouffignac et al.
Appl. Ser. No.: 09/841,493
Atty. Dckt. No.: 5659-06500

above noted application, but in the interest of expediency, a terminal disclaimer for the applications is provided as an accompanying document.

C Additional Comments

Applicant submits that all claims are in condition for allowance. Favorable reconsideration is respectfully requested.

A Fee Authorization is enclosed to cover the cost of the accompanying terminal disclaimer. It is believed that no other fees are due. If an extension of time is required, Applicant hereby requests the appropriate extension of time. If any additional fees are required or if any fees have been overpaid, please appropriately charge or credit those fees to Shell Oil Co. Deposit Account Number 19-1800/TH1990.

Respectfully Submitted,



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Date: May 2, 2003

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Marked-Up Copy Of Amendments Submitted With
Supplemental Amendment

2627. (amended) The method of claim 2619, further comprising controlling the heat such that an average heating rate of the heated part is less than about 1 °C per day in ~~a~~-the pyrolysis temperature range, wherein the pyrolysis temperature range is from ~~of~~-about 270 °C to about 400 °C.

2642. (amended) The method of claim 2619, further comprising producing a mixture from the formation, wherein the produced mixture comprises a non-condensable component, wherein the non-condensable component comprises molecular hydrogen, wherein the molecular hydrogen is greater than about 10 % by volume of the non-condensable component at 25 °C and one atmosphere absolute pressure, and wherein the molecular hydrogen is less than about 80 % by volume of the non-condensable component at 25 °C and one atmosphere absolute pressure.

5152. (amended) The method of claim ~~5150~~5151, wherein at least one of the heating elements comprises a pipe-in-pipe heater.

5153. (amended) The method of claim ~~5150~~5151, wherein at least one of the heating elements comprises a flameless distributed combustor.

5154. (amended) The method of claim ~~5150~~5151, wherein at least one of the heating elements comprises a mineral insulated cable coupled to a support, and wherein the support is free to move within the wellbore.

5155. (amended) The method of claim ~~5150~~5151, wherein at least one of the heating elements comprises a mineral insulated cable suspended from a wellhead.

5156. (amended) A method of treating a coal formation in situ, comprising:

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heating a part of the formation with heating elements, wherein at least two of the heating elements are placed in open wellbores, wherein at least one end of at least one of the heating elements is free to move axially within one of the open wellbores to allow for thermal expansion of the at least one heating element, and wherein superposition of heat from at least two of the heating elements pyrolyzes at least some hydrocarbons in the part of the formation; and

controlling the pressure of a majority of the part of the formation at or above a-2 bar absolute.

5157. (amended) The method of claim 5156~~5155~~, wherein at least one of the heating elements comprises a pipe-in-pipe heater.

5158. (amended) The method of claim 5156~~5155~~, wherein at least one of the heating elements comprises a flameless distributed combustor.

5159. (amended) The method of claim 5156~~5155~~, wherein at least one of the heating elements comprises a mineral insulated cable coupled to a support, and wherein the support is free to move within the wellbore.

5160. (amended) The method of claim 5156~~5155~~, wherein at least one of the heating elements comprises a mineral insulated cable suspended from a wellhead.